

Statement of Interest

Astrophysics

G. COLE FRITZ
Purdue University
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Extrasolar Planets

One of the earliest memories from my youth is of a trip I took with my father and older brother to a barren soccer field as the sun slowly dipped below my line of sight. With our van parked and all of the lights off, the three of us watched as the sky began to fill with faint twinkles. Bright eyed, my father opened the doors and lifted my brother and I onto the roof of the van, placing a blanket atop both of us. The three of us, in complete silence, marveled at the sky above us. My interest, my passion for the science behind the cosmos, all stem from that first brief encounter with the twinkling beyond.

I am currently working towards a degree in physics at Purdue University, with the intent to further my knowledge on the mechanics of the planet that encompasses my life. A career in science interested me from an early age, where I grew up surrounded by engineers. Encompassing this thirst for an understanding of this world is fervency towards an understanding of mechanics beyond this earth.

Currently, my interests lie in the research of galactic formation, specifically the discovery of "*dark matter*" using specialized detection schemes. I previously worked with Dr. Rafael Lang in building a system that will work towards the detection of **Weakly Interacting Massive Particles**, known colloquially as **WIMPs**. While working with Dr. Lang, I was part of a team that assembled a cryogenic chamber to divert and redirect the flow of liquid Xenon to and from a storage vessel. In addition to this, I also took part in assembling PMT detectors for further testing after evacuation.

Detection of unseen/currently undetectable forces and objects is the foundation for my interest in astrophysics; my goal as a researcher is to prod the current knowledge in these areas and further current knowledge about their underlying mechanisms. My prospective goal is to be an integral part of a research group seeking further discovery and understanding of extra solar planets. Specifically, my interests lay in the use of gravitational lensing as a detection method; as well as the discovery and understanding of so aptly named *rogue planets*.

An opportunity to continue studies at your institute would not only entrust the chance to pursue these academic ventures; it would also fulfill the dreams of that young boy who once sat below a cosmic sea of stars in sheer wonder.